

GEO-1

2020

Gold in New Hampshire

Yes! New Hampshire has gold! However, to date, only small quantities have been found in some of the state's bedrock (the solid rock under the soil) and in the gravels at the bottom of some streams (as placer deposits). When gold is found in the bedrock, it usually occurs in veins – long, narrow mineral rich “streaks.” It is removed by breaking up the rock and extracting the gold.

New Hampshire has a brief but colorful history of hard rock mining. Gold was discovered in Lyman, N.H., in 1864, sparking a minor rush. Several small mines soon opened in the Bath, N.H., area. These small mines supported two milling operations. About \$50,000 worth of gold (at period value) was shipped to the Philadelphia National Mint before economic circumstances closed operations in 1878. A much smaller amount of gold was also shipped to the mint from the Diamond Ledge Mine in Ossipee. None of these mines operated for very long.



Occurrence

Gold is found in certain types of rocks, formed by geologic processes. The weathering of New Hampshire's gold bearing bedrock broke the rock apart naturally. However, gold does not weather, and this allowed the more resistant flakes and nuggets of gold to be washed away by running water. Gold is approximately 19 times heavier than the same volume of water and gets left on the stream bottom with other heavy rock and mineral fragments.

Gold found in stream gravel is known as a placer deposit. Panning and dredging are methods of separating the heavy gold flakes and nuggets from the stream gravels. Some gold panning and dredging has been done over the last 300 years of New Hampshire's history, with varying degrees of success.

Important Note: The **water** in a New Hampshire stream, brook or river is considered to be “waters of the state,” however, the stream or **river bed** is privately owned by the individual(s) owning the land along the banks.



Panning for Gold in New Hampshire's Streams

Obtaining permission from landowners is more than simple courtesy; you are extracting minerals that are part of their property. Those gold panning may not use a shovel to dig into the stream bottom or stream banks. Scooping gravel up with the gold pan is allowed. For those mineral seekers wishing to look in the White Mountains, please visit the White Mountain Nation Forest ([WMNF website](#)) for more information on regulations in the area. New Hampshire state lands, such as state parks, geologic and historic sites, etc., have rules regarding mineral collecting. See: [Administrative Rule Res 7301.19 – Res 7301.21](#) for more information.

Recreational Mineral Dredging

Dredging and the use of sluice boxes involves disturbing the stream sediments but on a larger scale than panning. Processing stream gravels in search of placer gold, releases fine sediments back into the stream. (Note the “muddy water” in the photo.) Sediment-laden streams can be an environmental issue. Therefore, certain regulations apply to this activity in New Hampshire. Dredging and similar operations are regulated by the state under statutes [RSA 482-A](#) and [RSA 485-A:17](#) because of the potential for environmental damage.



Permit Required

Gold seekers who anticipate dredging, or similar work in New Hampshire, are **required to obtain a permit**. The **application** for a permit to operate a minimum impact small motor dredge for recreational mining of gold and other minerals under [RSA 482-A](#) and [RSA 485-A:17](#) is available online through the [NHDES Wetlands Bureau](#).

One **MUST** obtain a permit and follow these regulations in dredging for gold in New Hampshire. Recreational panners also need to check the regulations and **everyone** needs the permission of landowners to access stream locations for **panning or dredging**. Detailed information regarding permitting may be obtained by contacting the New Hampshire Department of Environmental Services Wetlands Bureau, PO Box 95, Concord, NH 03302-0095; (603) 271-2147.

Where to Look for Gold in New Hampshire

Gold has been identified in placer deposits, quartz veins and in metamorphosed conglomerate, especially the Clough Formation in the western side of the state. You can obtain a copy of the “Bedrock Geology Map of New Hampshire,” 1997, (Geo-NHX-250000-BMAP), showing the location of these rock formations, from NHDES’ Public Information Center, PO Box 95, Concord, NH 03302-0095; (603) 271-8876; pip@des.nh.gov.

The most well-known New Hampshire gold deposits were described by C.H. Hitchcock in 1878, published as the [“Hitchcock Atlas of New Hampshire Geology.”](#) He identified the Ammonoosuc Gold District centered on Lyman, Monroe and Bath, including southwestern Littleton, northwestern Landaff and western Lisbon.

Smaller amounts came from the Diamond Ledge in Ossipee. Gold in the Ammonoosuc District is found in veins (mineral filled cracks in the bedrock) with sulfide minerals such as pyrite, and as “free” gold in quartz veins. Streams draining into the Connecticut River, especially from the confluence of the

Ammonoosuc River at Woodsville north to the Connecticut Lakes, are all favorable for finding gold in placer deposits. The Baker River, draining into the Merrimack River, is also reportedly favorable for placer gold.

New Hampshire gold pieces in placer deposits range in size from very fine “specks” to pearl size “nuggets.” In truth, hard work can probably produce traces of gold from many streams in the state. Gold has been reported from many streams in northern and western New Hampshire. The following is a partial list.

Town	Stream
Benton	Tunnel Brook
Lincoln	Notch Brook
Lisbon	Salmon Hole Brook (reported to be the site of an 1866 con scheme when a sluice box was salted with gold to attract investors)
	Wild Ammonoosuc River
	Ammonoosuc River below Bath, NH
Northern Coos County	Indian Stream (gold has been reported in glacial deposits in the area)
	Perry Stream
	Swift Diamond River

Resource Potential

The Ammonoosuc Mining District is part of a belt that continues out of Vermont, up the Connecticut River, north into Quebec. This belt comprises of bedrock, which holds the highest potential in the state for important discoveries of gold reserves, as well as other metals. This belt is defined by metamorphic rocks, many of which were originally deposited as “volcanics,” which could have been, in part, endowed with gold. The most intensive placer-recovery gold activity in recent years has occurred in surficial deposits (soils and stream sediments) within this belt.

Other areas, including the rocks of the White Mountains and similar rocks to the south such as those within the Pawtuckaway Mountains, are also favorable for gold prospecting. The potential also exists for the occurrence of gold along faults, especially those rich in silica minerals.

As with any hobby, talking and working with other enthusiasts will give you a great deal of information on locations and techniques. Additionally, New Hampshire has a number of active mineral clubs. An online search can give you their contact information. Good luck!

If you have questions, contact the New Hampshire Geological Survey, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095; (603) 271-1976; FAX (603) 271-3305; geology@des.nh.gov.

Suggestions for Additional Reading

Boudette, E.L., 1990, *The Geology of New Hampshire*. Rocks & Minerals Magazine, v. 65, no. 4, p. 306-312.

Heylman, E.B., 1986, *Ammonoosuc Gold District*: California Mining Journal, (October issue).

Hitchcock, C.H., 1878, *Geology of New Hampshire*. Vol. 3: Part 3, surface geology; part 4, mineralogy and lithology; part 5, economic geology; and atlas.

Jackson, C.T. 1844. *Final report on the geology and mineralogy of the state of New Hampshire with contributions toward the improvement of agriculture and metallurgy*.

Meyers, T.R., and Stewart, G.W. 1956. *The Geology of New Hampshire, part III, minerals and mines* (with 1:500,000 scale map). <http://des.nh.gov/organization/commissioner/pip/publications/geologic/geology.htm>

Morrill, P. 1960. *New Hampshire mines and mineral localities*, 2nd ed., Hanover, NH, Dartmouth College Museum, 46 p. (Reprints available from <http://www.barilbooksandminerals.com/Click%20Here%20to%20View%20Our%20Book%20Selection.htm>)

Pearre, N.C., and Calkins, J.A. 1957. *Mineral deposits and occurrences in New Hampshire, exclusive of clay, sand, and gravel*. U.S. Geological Survey, Mineral Investigations Resource Map 6.

The New Hampshire Geological Survey also has Mineral Publications and Aeromagnetic maps at http://des.nh.gov/organization/commissioner/pip/publications/geologic/documents/geo_publ.pdf